

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated March 10, 2009 has been received and its contents carefully reviewed.

Claims 1-5, 8, 10, 25, and 26 are hereby amended. Support for the amendment may be found at least at p. 12, lines 18-22. Claims 6-7, 9, 11-24 and 27-28 are hereby canceled. No claims are added. Accordingly, claims 1-5, 8, 10, 25, and 26 are currently pending. Reexamination and reconsideration of the pending claims is respectfully requested.

Claims 1, 3 and 6-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,062,049 to Martinsson (hereinafter “*Martinsson*”) or U.S. Patent No. 4,854,054 to Johnson (hereinafter “*Johnson*”) in view of U.S. Patent No. 3,685,338 to Hoffman (hereinafter “*Hoffman*”). *Office Action* at p. 3, ¶ 6. The rejection of claims 6-7, 9 and 11-20 is moot as claims 6-7, 9 and 11-20 are canceled herein. Applicants respectfully traverse the rejection of the remaining claims and request reconsideration.

Independent claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “a cylindrical metal body having a first diameter and a seam without an overlapping portion by butt welding, wherein the first diameter is not expanded.” *Martinsson* or *Johnson* do not teach or suggest at least this feature of the claimed invention.

Martinsson discloses a “machine 10 [that] comprises an outer drum 11 adapted to surround and contain an inner drum 12.” *Martinsson* at col. 2, lines 18-19 and FIGs. 1-5. As shown, “the outer drum 11 and the inner drum 12 are built in the same way, i.e. comprising a cylindrical envelope 13 and 14, respectively, one end of which is closed by a gable 15 and 16, respectively.” *Martinsson* at col. 2, lines 30-33. *Martinsson* is entirely silent as to any teaching or suggestion regarding “a cylindrical metal body having a first diameter and a seam without an overlapping portion by butt welding, wherein the first diameter is not expanded.” Thus, *Martinsson* does not teach or suggest all of the features of independent claim 1.

Johnson discloses a “bulkhead assembly having plural airflow outlets.” *Johnson* at col. 1:6-7. *Johnson* is entirely silent as to any teaching or suggestion regarding “a cylindrical metal

body having a first diameter and a seam without an overlapping portion by butt welding, wherein the first diameter is not expanded.” Thus, *Johnson* does not teach or suggest all of the features of independent claim 1.

Hoffman fails to cure the deficiencies of *Martinsson* or *Johnson*. Indeed, the Office only relied on *Hoffman* to disclose “the use of hems in sheet metal forming.” *Office Action* at p. 4. Accordingly, none of the cited references, either individually or in combination teaches or suggest each and every element of independent claim 1.

For at least these reasons, Applicants respectfully request that the Office withdraw the 35 U.S.C. §103(a) rejection of independent claim 1. Claims 3, 8 and 10 depend from independent claim 1. It stands to reason that the 35 U.S.C. §103(a) rejection of this dependent claim should be withdrawn as well.

Claims 2, 4, 5 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Martinsson* or *Johnson* in view of *Hoffman* and further in view of U.S. Patent No. 1,645,971 to *Riegel* (hereinafter “*Riegel*”). *Office Action* at p. 5, ¶ 11. Applicants respectfully traverse this rejection and request reconsideration.

Riegel fails to cure the deficiencies of *Martinsson* or *Johnson* and *Hoffman*. *Riegel* merely discloses “a flat steel sheet [that] is rolled and welded together longitudinally to produce a perfectly straight hollow cylinder 2.” *Riegel* at col. 2, lines 74-77. *Riegel* is entirely silent as to any teaching or suggestion regarding, “a cylindrical metal body having a first diameter and a seam without an overlapping portion by butt welding, wherein the first diameter is not expanded,” as recited in independent claim 1.

When the joined portion of the thin metal sheet has an overlapping portion, the joined portion becomes significantly thicker than other portions of the drum. Furthermore, the joined portion protrudes from the drum body. Accordingly, a belt wound on the drum and such a joined portion makes a great noise, while the drum rotates by the belt.

Further, when the intermediate drum with the overlapping portion is additionally expanded or deduce by the press working to have the shape required in the dryer, the finished drum has the very non-uniform circular shape due to the great thickness at the joined portion. For these reasons, the drum with the overlapping portion greatly produces the noise and the vibration during the rotation of the drum by the non-uniform rotation inertia.

In contrast, in the butt-welding process, one edge of the rolled metal sheet abuts on the other edge thereof and then the seam between the abutted edges is welded. There is therefore no overlapped portion and no increase in the thickness of the joined portion thereby. That is, the butt-welding process allows the intermediate drum to have the relatively uniform thickness at least. For these reasons, the butt-welding is remarkably advantageous to maintaining relatively uniform circular shape of the drum after the reduction of both edge portions of the drum. If the drum does not have the uniform thickness by not applying the butt-welding, the drum already fails to maintain the uniform circular shape even before the press working.

In this respect, the butt-welding would be the primary and indispensable condition for preventing the noise and the vibration of the drum by the improved circular shape of the drum. This establishes the fact that the claimed feature provides the effective and substantial solution to the raised technical problem. Further, contrary to the Office's assertion, the butt-welding has been actually avoided in the prior art of the thin metal sheet drum due to the poor welding rate.

The claimed invention, however adapted the butt-welding to improve the roundness of the drum. It is obvious from these facts that the butt-welding is not the direct technical choice in fabricating the metal sheet drum, and any well known art and the prior art including *Riegel* and the admitted prior art would not prompt one skilled in the art to apply the butt-welding to the fabrication of the drum. Thus, *Riegel* does not teach or suggest the features of claims 2, 4, 5 and 25, which depend from claim 1.

Because none of the cited references, either individually or in combination, teaches or suggests each and every element of independent claim 1, they also fail to teach or suggest each and every element of claims 2, 4, 5 and 25, which depend from claim 1. Accordingly, Applicants respectfully request that the Office to withdraw the 35 U.S.C. §103(a) rejection of claims 2, 4, 5 and 25.

Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Martinsson* or *Johnson* in view of *Hoffman* and further in view of U.S. Patent No. 4,446,035 to *Barrat et al.* (hereinafter “*Barrat*”). Office Action at p. 5, ¶ 12. The rejection of claim 21 is moot as claim 21 is canceled herein.

Claims 22 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Martinsson* or *Johnson* in view of *Hoffman* and further in view of U.S. Patent No. 5,901,465

to Boussetta et al. (hereinafter “Boussetta”). *Office Action* at p. 5, ¶ 13. The rejection of claims 22 and 24 is moot as claims 22 and 24 are canceled herein.

Claim 23 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Martinsson or Johnson in view of Hoffman in view of Boussetta and further in view of U.S. Patent No. 5,063,098 to Niwa et al. (hereinafter “Niwa”). *Office Action* at p. 6, ¶ 14. The rejection of claim 23 is moot as claim 23 is canceled herein.

Claims 26-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Martinsson or Johnson in view of Hoffman in view of Boussetta and alternatively in view of Riegel. *Office Action* at p. 6, ¶ 15. The rejection of claims 27 and 28 is moot as claims 27 and 28 are canceled herein. Applicants respectfully traverse the rejection of the remaining claims and request reconsideration.

Independent claim 26 is allowable over the cited art in that claim 26 recites a combination of elements including, for example, “a body part formed by rolling a metal sheet into a cylinder, and butt welding a seam without an overlapping portion, having beads formed in a surface for strengthening.” As discussed above regarding independent claim 1, *Martinsson* or *Johnson* in view of *Hoffman* do not teach or suggest this feature.

Boussetta fails to cure the deficiencies of *Martinsson* and *Hoffman*. *Boussetta* teaches “steel bands or straps which may be readily fastened about the outside periphery of the cylindrical wall of the dryer drum.” *Boussetta* at col. 1, lines 55-67. *Boussetta* is entirely silent as to any teaching or suggestion, concerning “a body part formed by rolling a metal sheet into a cylinder, and butt welding a seam without an overlapping portion, having beads formed in a surface for strengthening,” as recited in independent claim 26. Thus, *Boussetta* does not teach or suggest the features of independent claim 26.

Riegel also fails to cure the deficiencies of *Martinsson* and *Hoffman*. For the same or similar reasons discussed above regarding independent claim 1, Applicants respectfully assert that *Riegel* does not teach or suggest at least the above feature of claim 26. , and respectfully submits that independent claim 26 is allowable over *Riegel*.

Accordingly, for the above stated reasons, Applicants respectfully request that the Office withdraw the 35 U.S.C. 103(a) rejection of independent claim 26.

Claims 1, 3 and 22-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over PCT Publication No. WO 03/008696 to Yoon (hereinafter “*Yoon*”) in view of *Martinsson* or *Hoffman*. *Office Action* at p. 7, ¶ 17. The rejection of claims 22-24 is moot as claims 22-24 are canceled herein. Applicants respectfully traverse the rejection of the remaining claims and request reconsideration.

Independent claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “a cylindrical metal body having a first diameter and a seam without an overlapping portion by butt welding, wherein the first diameter is not expanded.” *Yoon* does not teach or suggest at least his feature of the claimed invention.

Yoon teaches a “a drum device . . . including a drum having a chamber therein . . . and vibration reductive sound insulating member fitted to the drum.” *Yoon* at page 4, lines 23-26. *Yoon* is entirely silent as to any teaching or suggestion regarding “a cylindrical metal body having a first diameter and a seam without an overlapping portion by butt welding, wherein the first diameter is not expanded.” Thus, *Yoon* does not teach the features of claim 1.

Applicants respectfully assert that *Martinsson* and *Hoffman* do not cure the deficiencies of *Yoon*. For the same or similar reasons discussed above, *Martinsson* and *Hoffman* do not teach or suggest at least the above feature of claim 1. For at least these reasons, Applicants respectfully request that the Office withdraw the 35 U.S.C. §103(a) rejection of independent claim 1. Claim 3 depends from independent claim 1. It stands to reason that the 35 U.S.C. §103(a) rejection of those dependent claims should be withdrawn as well.

Claims 2, 4-5 and 25-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Yoon* in view of *Martinsson* or *Hoffman* and further in view of *Riegel*. *Office Action* at p. 7, ¶ 18. The rejection of claims 27 and 28 is moot as claims 27 and 28 are canceled herein. Applicants respectfully traverse this rejection and request reconsideration.

Riegel fails to cure the deficiencies of *Yoon* in view of *Martinsson* and *Hoffman*. For the same or similar reasons discussed above, Applicants respectfully assert that *Riegel* does not teach or suggest the features of dependent claims 2 and 4-5, and respectfully submits that these claims are allowable over *Riegel*.

Independent claim 26 is allowable over the cited art in that claim 26 recites a combination of elements including, for example, “a body part formed by rolling a metal sheet

into a cylinder, and butt welding a seam without an overlapping portion, having beads formed in a surface for strengthening.” Nothing in the cited references teaches or suggests at least this feature of the claimed invention. Hence, for the same or similar reasons discussed above regarding claim 1, Applicants respectfully assert that the cited references does not teach or suggest at least the above feature of claim 26, and respectfully submits that independent claim 26 is allowable over the cited references.

Accordingly, Applicants respectfully request that the Office withdraw the 35 U.S.C. § 103(a) rejection of claims 2, 4-5 and 26.

The application is in condition for allowance. Early and favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

By: _____


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